



# Quarterly Project Status

## April 26, 2006

Vashon-Maury Island  
Water Resources Evaluation

April 26, 2006



# Quarterly Review

- Ongoing monitoring overview
- Modeling update
- WRE reports update
- Budget
- Web page updates

April 26, 2006



# Island Monitoring

- WL survey continuing in 2006
  - 24 sites
  - 10 new volunteers (from article)
  - 1 new self-monitoring volunteer (6)
- Stream and Precipitation gaging continuing
  - Plan to upgrading a site to be a "full" meteorological station by next quarter
  - One site (43U) has telemetry and plan to add other sites

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# Island Monitoring con't

- New dedicated setup for each monitoring well
  - Water level device (Levellogger)
  - Sampling setup
  - Plan to add telemetry to the sites
- Water Quality monitoring (~summer)
  - Environmental indicators at current sites
  - Baseline parameters at new monitoring sites

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# WRE activities

- Larry Johnson involvement
- Looking into adding Judd Creek to the Routine Streams Program
  - Monthly samples for nutrients / conventuals
- Marine Monitoring in Quarter Master Harbor (not WRE funded)

April 26, 2006



# GW Environmental Indicators

- “State of the environment” indicators
- Using GW on VMI
  - Nitrate levels as measure of quality
  - Water levels as measure of quantity

April 26, 2006



## GW EI con't

Compared Nitrate concentrations of the last round of sampling (Round 8) to the average of the previous 7 rounds for the long-term monitoring locations.

<u>Range of Concentrations</u>	<u>Number of sites</u>
above 5 mg/L	0
1 to 5 mg/L	7
0.1 to 1 mg/L	3
below 0.1 mg/L	10
<u>Comparison</u>	<u>Number of sites</u>
Above Avg	3
Same as Avg	14
Below Avg	3

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# GW EI con't

Water Level Data  
2001-2005

Depth to Water

GWL\_w-02

GWL\_w-01

GWL\_w-13

GWL\_w-06

GWL\_w-09

Water Table Elevations

GWL\_w-06

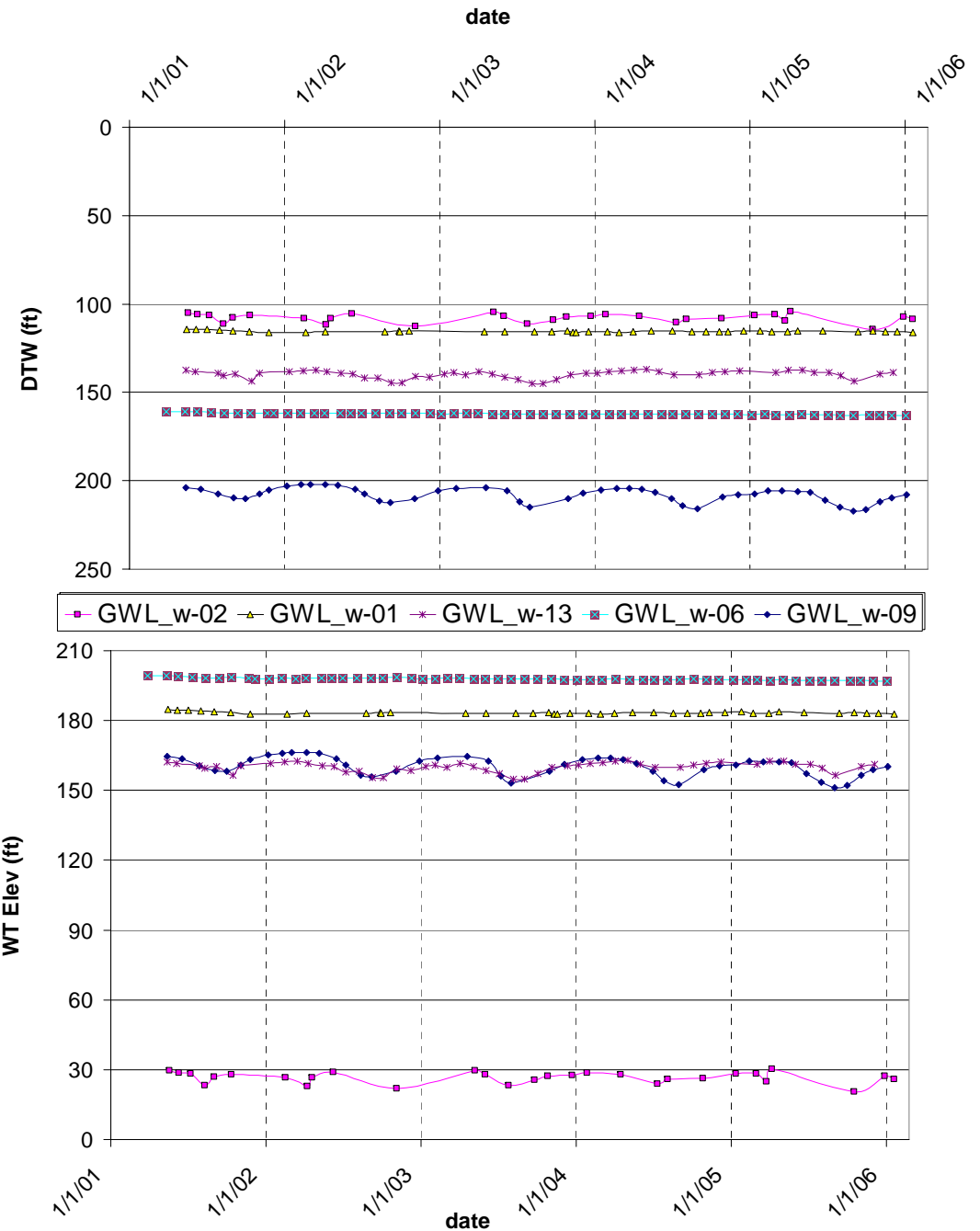
GWL\_w-01

GWL\_w-13

GWL\_w-09

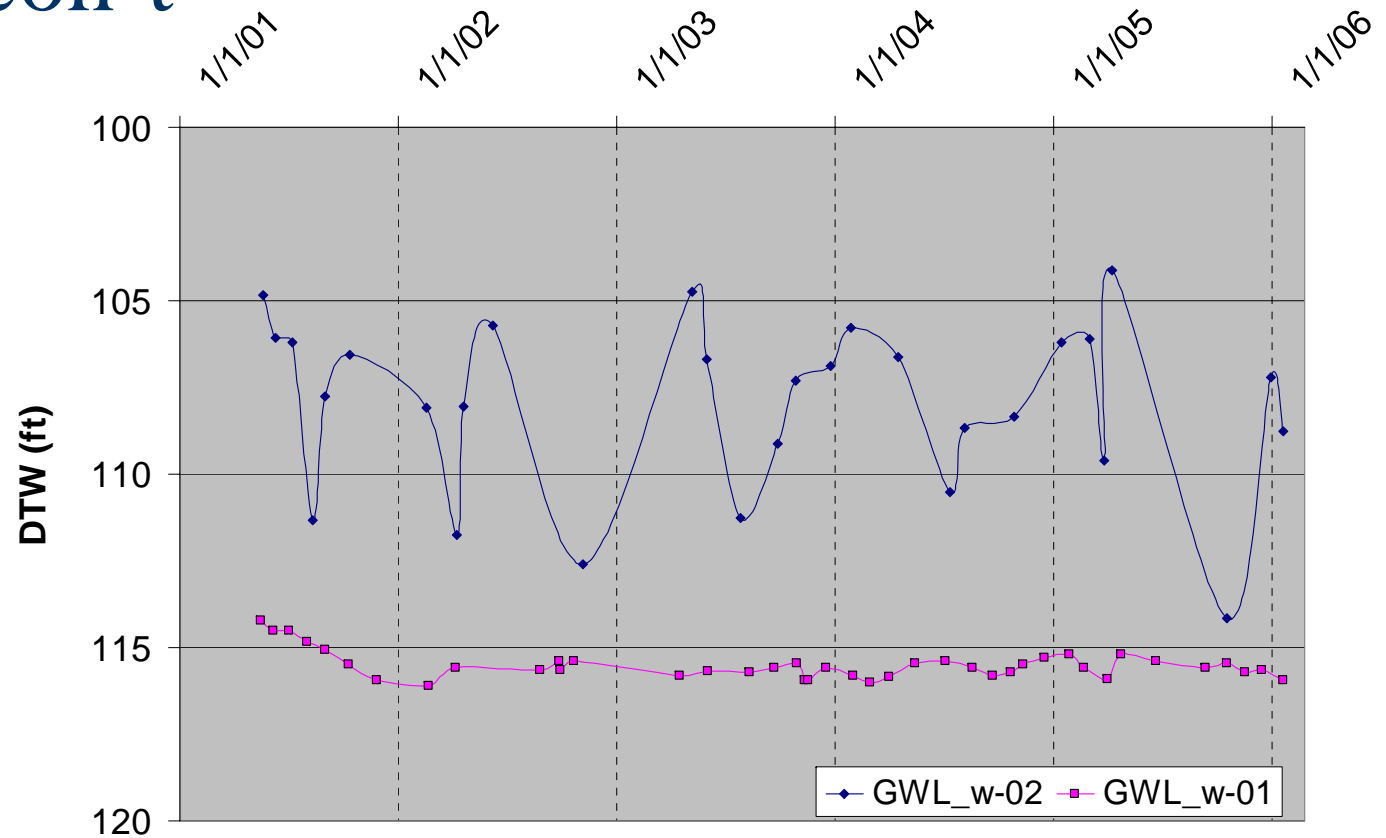
GWL\_w-02

April 26, 2006





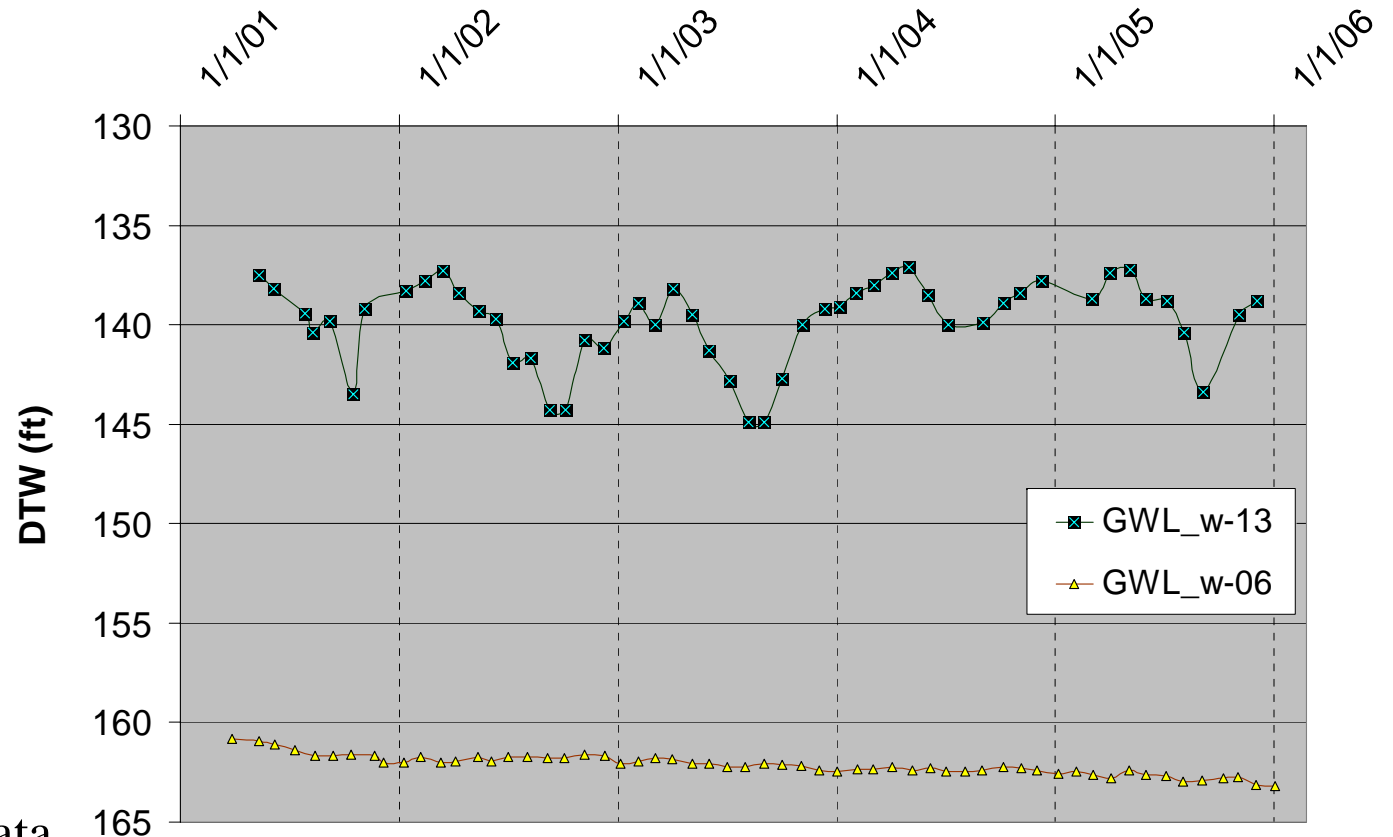
# GW EI con't



## Water Level Data

Site id	Baseline (2001-02)		2003	2004	2005
GWL_w-02	108.1	(11)	+0.4	+0.1	+0.2
<hr/>					
Site id	Baseline (2001-02)		2003	2004	2005
GWL_w-01	115.3	(13)	-0.4	-0.3	-0.2

# GW EI con't

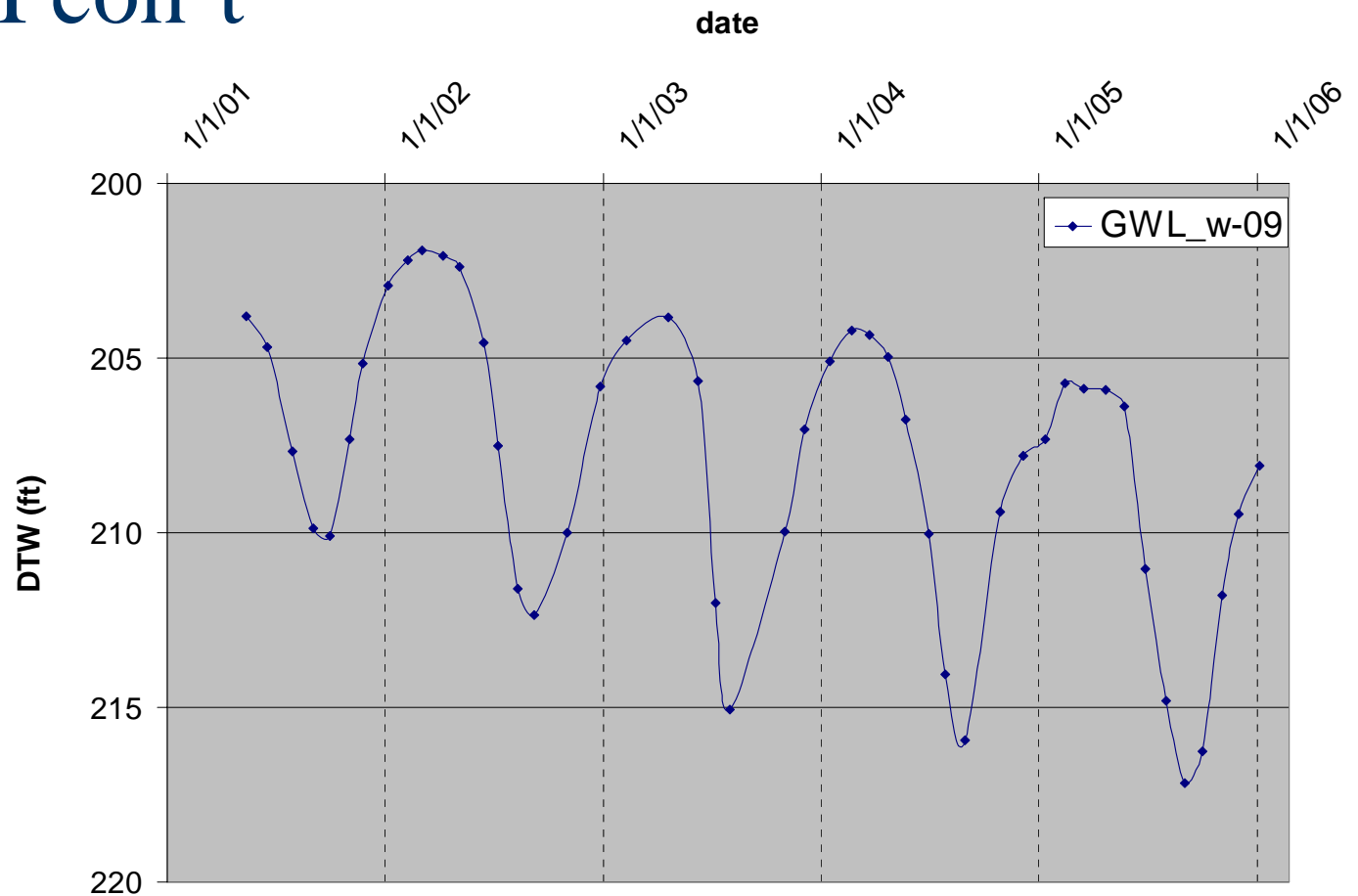


## Water Level Data

Site id	Baseline (2001-02)		2003	2004	2005
GWL_w-13	140.2	(19)	-0.8	+1.7	+1.0

Site id	Baseline (2001-02)		2003	2004	2005
GWL_w-06	161.6	(21)	-0.5	-0.8	-1.1

# GW EI con't



Site id	Baseline (2001-02)		2003	2004	2005
GWL_w-09	206.2	(18)	-2.1	-2.1	-4.0

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# WRE Modeling

## ■ Phase II

- Mike-SHE (Integrated Hydrological Modeling System)
  - Completed a 3-day training class earlier this month

## ■ 2006 Goals

- Initial surface water model developed (Mike-11)
  - Timeline to be done: late Summer
- Phase I GW model converted into Mike-SHE
  - Timeline to be done: late Fall
- Calibrate Integrated Transient model
  - Early 2007

April 26, 2006



# WRE Reports Update

- 2005 Water Resources Data Report  
DONE...completed this month.
  - Report to be mailed
- 2005 Well Data Report to be completed  
in the next quarter.
  - Boring Logs and well completion  
information
  - Pump Test data & results

April 26, 2006



## 2006 Budget

- Project budget for 2006 is \$176,961
- Expenses (to date) for 2006: \$78,372
  - 44% of our budget
  - 30K Holocene drilling charge in January

April 26, 2006

# GWPP website

- New Flash Animation now available

- <http://dnr.metrokc.gov/wlr/wq/groundwater.htm>



- VMI WRE page:

- <http://dnr.metrokc.gov/wlr/WQ/vashon-island/index.htm>

April 26, 2006



# Grant monitoring suggestions

- 137 Group B sources on VMI
  - 19 springs; 1 surface; 3 unknowns
  - 114 wells
- DoH WQ results 1990-2004
  - 28 Arsenic results
    - 20 different PWS
  - Old threshold is new MCL (0.01 mg/L)
- Environmental indicators
  - Arsenic, Nitrate and Chloride (\$68 per sample)
- Speciation of Arsenic
  - Determine the As(III) ~250 per sample

April 26, 2006